PATENT
Application No. 09/937,912
Filed January 24, 2002
Examiner Eisa B. Elhilo
Art Unit 1751
Attorney Docket No.221-08/ H03933

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the United States Patent Application of :

Applicants:	Mustafa Akram, Wolfgang Wolff and Sandra Rohweder
Application No.:	09/937,912
Filed:	January 24, 2002
Confirmation No.:	7117
Examiner:	Eisa B. Elhilo
Art Unit:	1751

Claiming priority of:
International Application
PCT/EP00/02538, filed March 22, 2000
and German Application
DE 199 14 927.5, filed April 1, 1999

Title: PHOSPHATE-TYPE TENSIDES COMBINED WITH HAIR CONDITIONING AGENTS IN HAIR COLORING COMPOSITIONS

DECLARATION OF DR. MUSTAFA AKRAM

I, Dr. Mustafa Akram, declare as follows:

1. I am a co-inventor of the subject matter of the above-identified patent application.

2. I received the degree of Diplom in Chemistry from Martin Luther University Halle – Wittenberg in Halle, Germany, in 1978. I then received a Ph.D. in Organic Chemistry with the degree of Dr. rer.nat. [Doctor of Natural Science] from Hamburg University in Hamburg, Germany, in 1984.

3. In 1985, I joined a company which was a predecessor to the assignee of the present application (Hans Schwarzkopf GmbH & Co. KG, hereinafter referred to as "Schwarzkopf") as a chemist in the Hair Dye Synthesis Group. From 1990 to 2003, I was the Senior Manager of the Color Development Department at Schwarzkopf. Since 2003, I have been the Director of Schwarzkopf's R & D department for Perms and Colors. Schwarzkopf is now part of Henkel KGaA by virtue of a merger of Schwarzkopf into Henkel KGaA in 2005.

4. I am familiar with United States Patent Application No. 09/937,912 of Mustafa Akram et al. (hereinafter the "Akram application"), United States Patent No. 5,843,193 to Hawkins et all., United States Patent No. 5,494,489 to Akram et al. (hereinafter the "Akram patent"), United States Patent No. 5,993,491 to Lim et al. ("Lim") and United States Patent No. 5,580,357 to Cotteret et al. ("Cotteret").

5. Claim 14 of the Akram application is directed to a composition for coloring keratin fibers. The composition comprises (a) at least one tenside of a formula (I), (b) at least one conditioning component comprising a cationic polymer and (c) at least one dye or dye precursor, or combinations thereof. Claim 16 is directed to the addition of the composition of claim 14 of an anionic tenside. Claims 17 and 19–27 further define the composition in terms of its cationic polymer, conditioning component, dye, or dye precursor. Claims 28 and 31–32 are directed to a method for coloring keratin fibers comprising the step of applying to the fibers the compositions set forth in claims 14, 26 or 16, respectively.

6. The Hawkins patent is directed to a composition and method for oxidative dyeing of hair and to a kit containing the hair dyeing composition and a developer. The composition comprises (by weight of the total composition): 0.0001 to 20% of at least one primary intermediate and at least one coupler for the formation of oxidation dyes, 0.01 to 10% of a 2-hydroxyphenyl benzotriazole compound which absorbs ultraviolet radiation in the wave-length range of 200 to 400 nanometers, 0.5 to 20% surfactant, and 10 to 65% water.

7. The Hawkins patent does not exemplify, disclose or even suggest component (a) of Applicants' composition as claimed in claim 14 of at least one tenside of formula (I). The Hawkins patent also does not disclose as an essential ingredient, component (b) of Applicants' claimed composition of "at least one conditioning component comprising a cationic polymer." The Hawkins patent suggests that a cationic conditioning agent is one of a number of other ingredients that may be added to the compositions of the Hawkins invention. (Column 9, lines 46–47).

8. The Akram patent discloses that improved wet combability of hair is achieved by aqueous colorants for keratin fibers such as human hair. The aqueous dyeing composition is based on oxidation dye precursors, which are mixed immediately before application with a peroxide-containing composition to form a hair care composition. The hair care composition also comprises at least one developer substance, at least one coupler substance and tris (3-N,N-dimethyl-N-linolenamidopropyl-2-hydroxyammoniumpropyl) phosphoric acid ester-trichloride (hereinafter referred to as the tenside of formula (I). The Akram patent does not disclose, exemplify or even suggest Applicants' composition as claimed in claim 14, comprising (b) at least one conditioning component comprising a cationic polymer.

9. The Akram patent discloses the following at column 1, lines 44–60:

> A requirement for oxidative dyeing, however, is that the oxidation dye precursors must be able to penetrate into the hair. In order to guarantee this, alkalis, preferably ammonia, are added to the hair colorants. As a result of the oxidizing agent, which is not only used for the coupling of the dye precursors, but also destroys the melanin of the hair, and as a result of the alkali, in particular as a result of the ammonia, the hair is appreciably damaged during dyeing. As a result, the hair can be harder to comb. In order to solve this problem, after dyeing the hair is often treated with a shampoo and with a conditioner in two further working steps. This, however, is labor-intensive and does not always lead to satisfactory results.
>
> It is therefore an object of the present invention to find formulations containing specific constituents which are less harsh on the condition of the hair during and after oxidative dyeing.

10. The Akram patent does not address the issues of whether dry hair that has undergone oxidation dyeing is harder to comb, or whether dry combability is improved by the formulations of the Akram patent.

11. With respect to wet combability of hair, the Akram patent discloses at column 3, line 61 through column 4, line 59 the advantages that the presence of the combination of the tenside of formula (I) and the hair colorant conveys to hair during and after the dyeing process in terms of wet combing behavior in comparison to a hair colorant without the tenside of formula (I) or with the tenside of formula (I) added subsequently as a conditioning agent.

12. Because of the improvement in wet combability produced by the hair colorant composition comprising the above-identified phosphoric acid ester-trichloride as disclosed in the Akram patent, a commercial hair coloring product covered by at least one claim of the Akram patent was created by the Assignee of that patent, Henkel KGaA and sold under the Igora Royal brand beginning in 1994.

13. Although the Akram patent disclosed the use of the formula (I) compound, the patent specification gave no indicator of the synergistic increase in the care effect of the active ingredient composition disclosed and claimed in the Akram application. As demonstrated herebelow in Paragraph 15, the synergistic effect is found, for example, in improvements in dry combability and grip, and wet grip.

14. In connection with the prosecution of the Akram application, an investigation was carried out under my supervision. In that investigation, a comparison was made between a composition comprising (A) a tenside of a formula (I) as disclosed in the Akram patent (comparative composition A), a composition comprising (B) at least one conditioning component comprising a cationic polymer as disclosed in the Hawkins patent (comparative composition B) and Applicants' claimed composition (inventive composition C). More specifically, the comparative composition A comprised component (a) of Applicants' claimed composition but not component (b). Comparative composition B comprised component (b)

of Applicants' claimed composition but not component (a). Inventive composition C comprised both components (a) and (b) in claim 14. The remaining component (c) of claim 14, a dye precursor, is represented by p-tolylenediamine, as disclosed in the specification at page 10, line 28 to page 11, line 7. Four specialists in the art of hair treatment judged the dry and wet behavior on both sides of the head of each of three test subjects treated with each of the two comparative compositions and the inventive composition in terms of (i) wet combability; (ii) wet grip; (iii) dry combability; and (iv) dry grip in a blind test. A summary of the results of the investigation was reported in my Declaration under 37 CFR § 1.132 (copy attached hereto as **EXHIBIT A**). That Declaration was submitted as part of Applicants' Amendment and response filed May 10, 2005.

15. In this procedure each specialist marked the results on every head with a number between -2 and +2:

- -2 means the composition mentioned as second is much better;
- +2 means the composition mentioned first is much better;
- -1 means the composition mentioned as second is slightly better;
- +1 means the composition mentioned first is slightly better; and
- 0 means there are no differences between the two).

After addition of the individual marks, the following numbers were obtained:

• Combability of the wet hair:	Rating C vs. A: +11	Rating C vs. B: 0
• Combability of the dry hair:	Rating C vs. A;+8	Rating C vs. B: +2
• Grip of the wet hair:	Rating C vs. A: +8	Rating C vs. B: +4
• Grip of the dry hair:	Rating C vs. A: +1	Rating C vs. B: +3

16. In my prior Declaration, I stated that inventive composition C was judged as being slightly better in all tests than comparative composition A, and clearly better in all tests than comparative composition B. However, the results listed in Paragraph 15 above indicate that hair treated with inventive composition C was much more improved relative to hair treated with comparative composition A than comparative composition B. After further review of the results in Paragraph 15, I have concluded that the statements made in my prior Declaration inadvertently transposed "A" for "B" and "B" for "A." The conclusion of the prior

Declaration, that inventive composition C produced better results than either comparative composition A or comparative composition B remains unchanged.

17. The results set forth in Paragraph 15 disclose that inventive composition C has important advantages for hair care relative to comparative compositions A and B. As noted above in Paragraph 9, the Akram patent discloses that hair damaged during the oxidative dyeing process is more difficult to comb. The superior dry combability of hair treated with inventive composition C relative to comparative compositions A and B means that hair treated with composition C was relatively less damaged. Superior dry combability is also advantageous because of the need to comb hair after it is treated.

18. Superior results for grip of the wet and dry hair treated with inventive composition C are also important to a consumer. Hair having superior grip properties is easier to handle and style after the dyeing process

19. The better performance of inventive composition C relative to comparative composition B comprising the tenside of formula (I) in terms of wet grip, dry grip and dry combability is commercially significant because the better results reflect a reduction of damage to the hair and the easier handling of the hair at the end of the dyeing process and after it.

20. In view of the better hair care qualities produced by the composition being claimed in the Akram application, Henkel KGaA, the successor of Schwarzkopf and owner of the Akram application and the Akram patent, changed the formulation of the Igora Royal brand of hair colorant to a composition claimed in the Akram application. This change occurred between May 1999 and 2000. Sales of the relaunched hair care composition, which continues to be offered under the Igora Royal brand, have increased substantially since the relaunch, as shown by the following sales figures for the years 1998 to 2002. The sales figures are presented in Euros rounded to the nearest 10,000,000 Euros. (1.00 Euro is about $1.30 USD):

Year	Sales Figures in Euros
1998:	100,000,000 Euros
1999:	110,000,000 Euros
2000:	130,000,000 Euros
2001:	140,000,000 Euros
2002:	150,000,000 Euros

These figures show a substantial and continuing increase after relaunch of the Igora Royal brand hair coloring product in 2000–2002 compared with 1998 (the last full year before relaunch). The increase in sales is believed to be due in part to the superior hair care qualities of the composition covered by the Akram application relative to the composition covered by the Akram patent, particularly in reduction of hair damage.

21. Hawkins does not disclose, exemplify or otherwise suggest the composition claimed in the Akram application. Hawkins does not disclose a composition comprising a tenside of formula (I). Hawkins identifies a surfactant as an ingredient, but does not disclose that its surfactants improve hair combability. Instead, Hawkins is concerned with the problem of color fading due to ultraviolet light. The Akram patent identifies the formula (I) compound as ineffective as a separate conditioning agent. (*See* the disclosure at column 4, lines 40–59) which discloses that after-treatment of hair with the formula (I) compound produced no improvement in the wet combability of hair. Accordingly, the disclosures in the Hawkins and Akram patents do not suggest Applicants' claimed composition and method and do not provide motivation or guidance to obtain Applicants' claimed composition and method.

22. The Lim patent is directed to compositions and methods for the oxidative coloring of human hair, wherein the compositions contain as a novel primary dye intermediate a 1-(4-aminophenyl)-2-pyrrolidinemethanol, or a cosmetically acceptable salt thereof. The Cotteret patent discloses a dyeing composition for keratinous fibers, comprising in a suitable dyeing medium, at least one oxidation dye precursor chosen from certain defined aminophenols and at least one coupling agent chosen from certain 2-methyl-

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5-aminophenols. Neither the Lim nor Cotteret patent discloses Applicants' claimed composition (for coloring keratin fibers comprising (a) of at least one tenside of formula (I) and (b) at least one conditioning component comprising a cationic polymer.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 19 of the United States Code, and that such willful false statements may jeopardize the validity of the Akram application or any patent issued thereon.

Dated: February 5, 2007

Dr. Mustafa Akram

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